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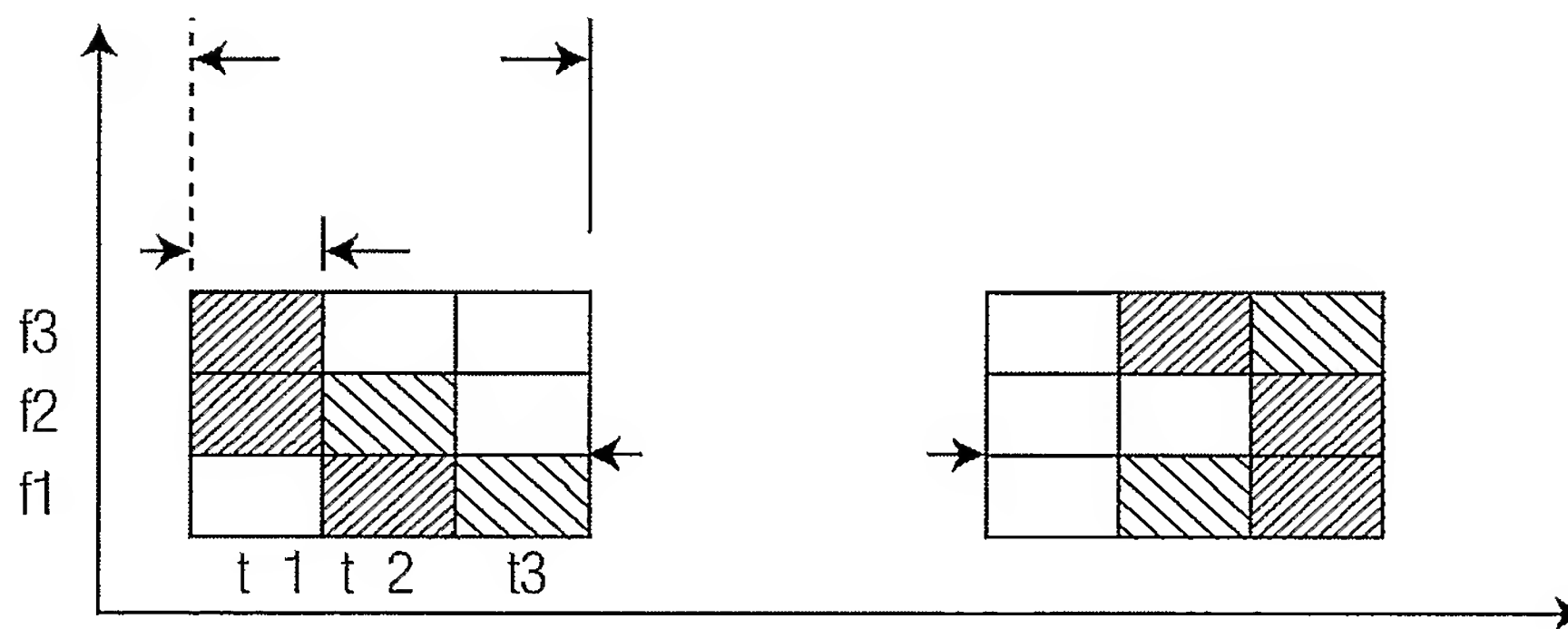
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[Continued on next page]

(54) Title: ENHANCED SPECTRAL KEYING FOR WIRELESS ULTRA WIDEBAND COMMUNICATIONS



(57) Abstract: Methods provide for the amount of information encoded by spectral keying into a UWB symbol having a plurality of modulation symbol times, to be increased by operating two or more frequency band carriers simultaneously during at least one of a plurality of modulation symbol times. In one aspect of the present invention, once a frequency resource, such as a carrier, has been used during a given modulation symbol time, those frequency resources are not used again within that UWB symbol. A method of transmitting symbols, includes providing (302) data to be transmitted, determining (304), which frequency carriers, if any, of a set of n frequency carriers, are to be turned on during each of n modulation symbol times, and turning on (306) each of the determined frequency carriers during each of the modulation symbol times, and wherein each frequency carrier is turned on only once during the transmission of the symbol.

WO 2005/074151 A1



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